



ASSESSMENT OF CARDIO-VASCULAR FITNESS AND SELF-CONCEPT OF BADMINTON PLAYERS OF HIGH AND LOW PERFORMANCE ABILITY

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Abstract:

The purpose of this study was to assess the cardio-vascular fitness and self-concept of badminton players of low and high performance ability. Thirty male badminton players (fifteen districts level and fifteen state level) were randomly selected for this study. All the players were residing in Lucknow city and their age ranged from 19-25 years. Data on cardio-vascular fitness of the subjects were collected with the help of Harvard Step Test. For measuring the self-concept, a questionnaire prepared by Dr. G. P. Sherry was used. To compare the cardio-vascular fitness and self-concept of badminton players "t-ratio" was employed and the level of significance was set at 0.05. On the basis of the results of the study, high performance level badminton players had significantly high cardio-vascular fitness than those of low performance level badminton players, where as in the dimension of self-concept significant difference was not found between them.

Keywords: cardio-vascular fitness, badminton players, performance ability

1. Introduction

Badminton is a game which although played in a relatively small area, involves almost continuous movements in the court and thereby puts considerable demands on the cardio-vascular system of the players. To enable badminton players to maintain their speed, reflections and agility for long duration at high level of competition, cardio-vascular fitness plays an important role.

Success in competitive sports places high psychological demand on the participants. Physical fitness at one hand and psychological at other are equally important to maintain the equilibrium of the individual. Self-concept is the most important single attribute and key to understand the behaviour of an individual, the importance and role of self-concept as a determinate of human behaviour and its acceptance as a critical factor of performance is increasingly realized.

The teams are prepared not only to play the game but to win the game and for winning the game, it is not only the cardio-vascular fitness which brings victory but more important is the spirit of the players with which they play and perform their best in the competition.

2. Method

Thirty male badminton players (fifteen district level and fifteen state level) who had participated recently in their respective competitions were randomly selected for this study. All the players were residing at Lucknow city and their age ranged from 19-25 years. Data on cardio-vascular fitness of the subjects were collected with the help of Harvard Step Test. The fitness index (score) was obtained using following formula:

$$\text{Fitness Index} = \frac{\text{Duration of exercise period in seconds} \times 100}{2 \times \text{Sum of pulse counts after exercise}}$$

For finding the self-concept of badminton players a questionnaire prepared by G. P. Sherry and others was used, which has 48 questions, each having 5 possible answers and corresponding scores. The scores made by subject on the 48 questions were added to obtain his final self-concept scores. To compare the cardio-vascular fitness and self-concept of high and low level badminton players “t-ratio” was applied and the level of significance was set at 0.05 levels.

3. Findings

Findings related to cardio-vascular fitness and self-concept of high and low level badminton players are presented below.

Table 1: Significance of Difference of Mean of High and Low Level
Badminton Players on the Cardio-Vascular Fitness

Group	Mean	S.D	Mean difference	S.E. of difference of mean	“t’ ratio
High level badminton players	87.86	18.2			
			21.06	9.27	2.27*
Low level badminton players	66.80	29.6			

* Significant at 0.05 level

N = 30

‘t’ ratio needed to be significant at 0.05 level with 28 degrees of freedom is 2.05.

The analysis of data in table-1 shows that there is a significant difference between high and low level badminton players of Lucknow district in their cardio-vascular fitness as obtained ‘t’ ratio of 2.27 is greater than the required ‘t’ value of 2.05.

Table 2: Significance of Difference of Mean of High and Low Level
Badminton Players in Their Self Concept

Group	Mean	Mean difference	S.E. of difference of mean	"t' ratio
High level badminton players	50.28			
		1.43	10.30	0.14
Low level badminton players	51.71			

* Significant at 0.05 level

N = 30

't' ratio needed to be significant at 0.05 level with 28 degrees of freedom is 2.05.

The analysis of data in table-2 shows that there is no significant difference between high and low level badminton players of Lucknow district in their self-concept as obtained 't' ratio of 0.14 is less than the required 't' value of 2.05.

4. Discussion of findings

It is evident from table-1 that high performance level badminton players are significantly superior to low performance level badminton players in the dimension of cardio-vascular fitness. This may be due to the fact that high performance level badminton players might have taken conditioning program more seriously due to the motivational effect, as a result of which the efficiency of their cardio-vascular fitness might have improved more than the low performance badminton player.

Basically, badminton is an expensive game; hence, mostly players from high and upper middle class play this game. As they belong to almost same socio-economic status, they acquire almost same experience on and off the field, which are responsible for the development of self-concept of an individual. Hence, their way of thinking, attitudes and behaviour pattern develop in the same direction. This may be the reason for the insignificant difference in self-concept of high and low performance level badminton players.

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